# Commonwealth of Kentucky Division for Air Quality STATEMENT OF BASIS / SUMMARY

Title V, Construction / Operating Permit: V-21-016 R1 American Fuji Seal, Inc. 1051 Bloomfield Road Bardstown, KY 40004 4/14/2025 William Parsons, Reviewer

 SOURCE ID:
 21-179-00031

 AGENCY INTEREST:
 3270

 ACTIVITY:
 APE20240002

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# **SECTION 1 – SOURCE DESCRIPTION**

SIC Code and description: 3809, Plastics Products, NEC (except plastics pipe fittings, inflatable plastics life jackets, plastics furniture parts, and plastics sausage casings)

Single Source Det.	$\Box$ Yes	🖾 No	If Yes, Affiliated Source AI:			
Source-wide Limit	🛛 Yes	□ No	If Yes, See Section 4, Table A			
28 Source Category	□ Yes	🖾 No	If Yes, Category:			
County: Nelson	$\square$ N/A		$\mathbf{P}\mathbf{M}_{1}$ , $\mathbf{P}$ , $\mathbf{C}\mathbf{O}$ , $\mathbf{P}$ , $\mathbf{N}\mathbf{O}_{\mathbf{Y}}$ , $\mathbf{P}$ , $\mathbf{S}\mathbf{O}_{2}$ , $\mathbf{P}$ , $\mathbf{O}_{\mathbf{Z}}$ , $\mathbf{O}_{\mathbf{Z}}$ , $\mathbf{P}$ , $\mathbf{I}$ , and			
In onattainment Area $\boxtimes$ N/A $\square$ PM <sub>10</sub> $\square$ PM <sub>2.5</sub> $\square$ CO $\square$ NO <sub>X</sub> $\square$ SO <sub>2</sub> $\square$ Ozone $\square$ Lead If yes, list Classification:						
PTE* greater than 100 tpy for any criteria air pollutant $\boxtimes$ Yes $\Box$ No If yes, for what pollutant(s)? $\Box$ PM <sub>10</sub> $\Box$ PM <sub>2.5</sub> $\Box$ CO $\Box$ NO <sub>X</sub> $\Box$ SO <sub>2</sub> $\boxtimes$ VOC						
PTE* greater than 250 tpy for any criteria air pollutant $\boxtimes$ Yes $\square$ No If yes, for what pollutant(s)? $\square$ PM <sub>10</sub> $\square$ PM <sub>2.5</sub> $\square$ CO $\square$ NO <sub>X</sub> $\square$ SO <sub>2</sub> $\boxtimes$ VOC						
PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) □ Yes ⊠ No If yes, list which pollutant(s):						

- PTE\* greater than 25 tpy for combined HAP  $\Box$  Yes  $\boxtimes$  No
- \*PTE does not include self-imposed emission limitations.

# **Description of Facility:**

American Fuji Seal is a manufacturer of labels for the food, beverage and household products industry.

# SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-21-016 R1	Activities: APE20240002				
Received: October 1, 2024	Application Complete Date(s): October 21, 2024				
Permit Action: $\Box$ Initial $\Box$ Renewal	$\Box$ Significant Rev $\boxtimes$ Minor Rev $\Box$ Administrative				
Construction/Modification Requested?	$\square$ Yes $\square$ NoNSR Applicable? $\square$ Yes $\square$ No				

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action  $\Box$  Yes  $\boxtimes$ No

#### APE20240002:

The Division for Air Quality received an application to update the permit regarding numerous equipment removals and additions at the facility. This application was processed as a minor revision. In addition, natural gas combustion units have been updated to show 401 KAR 63:020 applicability and some permit language has been updated to be consistent and clear and incorporate any regulatory changes since the last permit action.

- a. The following equipment has been removed from the permit:
  - 1. EP 1 (1A&B) Two Cleaver Brooks Package Boilers have been removed.
  - 2. EP 6A, 6B, 33 and 41 Polyethylene Foam Extruders have been removed.
  - 3. EP 8 (8G) Flexographic Press has been removed.
  - 4. EP 48 Offset Press has been removed.
  - 5. EP 52 and 53 Offset and Rotogravure Press have been removed.
  - 6. Four Cummins Diesel Firewater Pump Engines have been removed.
  - 7. All corona treaters have been removed from Section C.
  - 8. EP11 Scrap handling system has been removed from Section C.
  - 9. A 6 Ton  $CO_2$  Tank has been removed from Section C Storage Tanks.
  - 10. Extruder 5B #101 has been removed from Section C.
- b. The following equipment has been added to the permit:
  - 1. EP 46 Chrome Plating has a new chrome tank, replacing tank #1 and a new rectifier with a 5000 amp capacity. As such, existing source standards for 40 CFR 63 Subpart N no longer apply to tank #1.
  - 2. Four Emergency Fire Pumps were added as emission points EP 56 through 59.
  - 3. Extruder 5A #103 was added to Section C. This is a new machine and not the previous 5A #103 machine.
  - 4. EP60 ABG Digicon 3 Press has been added to Section C Insignificant Activities.
  - 5. EP61 HP Indigo WS6800 Press has been added to Section C Insignificant Activities.
- c. The following changes and clarifications have been made:
  - 1. EP 2A, 2B, and 3 Silos and Railcar unloaders have been clarified to handle polyester.
  - 2. EP 51 Rotogravure Press was clarified to have hot oil heaters heated by the EP 50 boiler instead of an electric dryer
  - 3. Tank #3 in Section C was stated to be 6000 gallons and not 3000 gallons of Solvent Blend.

	V-21-016 R1 Emission Summary						
Pollutant	2024 Actual	Previous PTE	Change (tpy)	Revised PTE			
	(tpy)	V-21-016 (tpy)		V-21-016 R1 (tpy)			
СО	5.97	35.60	-11.71	23.89			
NO <sub>X</sub>	7.30	49.25	-20.82	28.43			
PT	3.09	20.45	-7.72	12.73			
$PM_{10}$	3.09	18.17	-5.44	12.73			
PM <sub>2.5</sub>	0.71	5.94	-1.25	4.69			
$SO_2$	0.059	0.85	-0.56	0.29			
VOC	106.6	808.1	-460.2	347.9			
Lead	3.5E-05	2.0E-04	-6.0E-05	1.4E-04			
	Gr	eenhouse Gases (GHO	Gs)				
Carbon Dioxide	8461	48341	-14683	33658			
Methane	0.16	0.92	-0.28	0.64			
Nitrous Oxide	0.15	0.88	-0.816	0.064			
CO <sub>2</sub> Equivalent (CO <sub>2</sub> e)	8511	48626	-14933	33693			
	Hazar	dous Air Pollutants (I	HAPs)				
Chromium VI and	0.18	0.79	0	0.79			
Compounds							
Ethyl Benzene	0.28	0.62	-0.22	0.40			
Hexane; N-Hexane	N/A	N/A	0.50	0.50			
Methanol	0.14	1.45	-1.45	0			
Methyl Isobutyl Ketone	0.058	0.58	0	0.58			
Styrene	0.77	1.70	-1.70	0			
Combined HAPs:	1.43	5.14	-2.31	2.83			

\*The facility has source-wide emission limits of 9 tpy single HAP, and 22.5 tpy combined HAP to preclude Title V major source thresholds for these pollutants

\*\*The facility has source-wide emission limits of 225 tpy VOC to preclude the applicability of 401 KAR 51:017.

Emission Point 50 and 51, Hot Oil Heaters #1 and #2								
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method				
PM	EP50, 0.41		AP-42 Chapter 1.4.	Assumed based upon				
	lb/MMBtu;	401 KAR 59:015,		natural gas combustion				
	EP55, 0.39	Section 4(1)(c)						
	lb/MMBtu							
Opacity	20% operity	401 KAR 59:015,	N/A	Assumed based upon				
	20% Opacity	Section 4(2)		natural gas combustion				
$SO_2$	EP50, 1.79		AP-42 Chapter 1.4.	Assumed based upon				
	lbs/MMBtu; EP	401 KAR 59:015,		natural gas combustion				
	55, 1.61	Section $5(1)$		_				
	lbs/MMBtu							
Initial Con	Initial Construction Date: EP50, (7/2008); EP55, (6/2021)							

# SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

# **Process Description:**

#### Emission Point 50 (50)Hot Oil Heater #1

Fulton Thermal Corp. Hot Oil Heater (For EP50 rotogravure presses #3 and #4) 9.999 MMBtu/hr Primary fuel: Natural Gas

#### Emission Point 55 (55)Hot Oil Heater #2

Fulton Thermal Corp. Hot Oil Heater (for EP54 Flexographic/Rotogravure press #6) 9.999 MMBtu/hr Primary fuel: Natural Gas

#### **Applicable Regulation:**

401 KAR 59:015, New Indirect Heat Exchangers

#### **Comments:**

Allowable emissions for the units are calculated using 401 KAR 59:015, Section 3(1) using the total rated heat input capacity of all affected facilities at a source.

EP50

PM Emission Limit, 401 KAR 59:015 Section 4.(1)(c);  $0.41 = 0.9634 * (12.554 + 12.554 + 9.999)^{-0.2356}$ 

Sulfur Dioxide Emission Limit, 401 KAR 59:015 Section 5.(1)(c)2.;  $1.79 = 7.7223 * (12.554 + 12.554 + 9.999)^{-0.4106}$ 

#### EP55

PM Emission Limit, 401 KAR 59:015 Section 4.(1)(c);  $0.39 = 0.9634 * (12.554 + 12.554 + 9.999 + 9.999)^{-0.2356}$ Sulfur Dioxide Emission Limit, 401 KAR 59:015 Section 5.(1)(c)2.;  $1.61 = 7.7223 * (12.554 + 12.554 + 9.999 + 9.999)^{-0.4106}$ 

Emission Point 02 (2A and 2B) Silos and Emission Point 03 Five Railcar Unloaders							
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method			
PM	EP2B, 21.1 lb/hr; EP03, 13.7 lb/hr	401 KAR 59:010 Section 3(2)	1.67 lb/ton pellets Engineering estimation	Daily Baghouse pressure drop monitoring, 99% PM control			
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Stack Visual Observation			
PM	EP2A, 27.9 lb/hr; EP03, 17.5 lb/hr	401 KAR 61:020 Section 3(2)	1.67 lb/ton pellets Engineering estimation	Daily Baghouse pressure drop monitoring, 99% PM control			
Opacity	40% opacity	401 KAR 61:020, Section 3(1)	N/A	Weekly Stack Visual Observation			

**Initial Construction and Modification Date:** EP2A, (1970); EP2B, (1980); EP03, (1970) with modification in (2010)

# **Process Description:**

Hopper car unloading and pneumatic conveying of polyester pellets to storage silos.

# 2A - Silos #1-8 & 11, 12

# 2B - Silo #10

Shick 12 ft. diameter x 55 ft.

Maximum continuous rating: 35,000 lbs/hour.

Control Equipment: Each silo equipped with baghouse, Flex-Kleen, Model 58BV-36, 600 cfm, 300 sq ft., 16 oz. Polyester Felt, Pulse Air Cleaning

# **Five Railcar Unloaders**

Each Unloader Equipped with Shick Blowers, Models 4509 and 4512 Maximum continuous rating: 17,500 lbs/hour (each), only two (2) may operate at a time.

# **Applicable Regulation:**

401 KAR 61:020, Existing process operations

401 KAR 59:010, New process operations

# **Comments:**

Emissions from this source are bottlenecked by the Railcar unloaders. Only two can operate at a time and carry 8.75 ton/hr each.

An engineering estimation of 5 lbs pm emissions per ton pellets was used. This factor is divided amongst the three emission points for recordkeeping purposes.

Emission Point 44 Parts Washer and Emission Point 50 Four Renzemann Parts Cleaners								
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method				
VOC	Less than 35% by weight of net VOC input shall be emitted	401 KAR 59:212	Material Balance	Management Practices				

**Initial Construction Date:** EP 44, (7/2002); EP50, (6/2008)

# **Process Description:**

# **Emission Point 44 (44)Parts Washer**

Parts Washer, Progressive Recovery Inc. Model # SWS-312

For cleaning ink from buckets, ink pans, doctor blade assemblies and various press parts Parts washer is 48" x 48" x 84" enclosed chamber with separate solvent reservoir tank, closed loop hard piped system, parts dryer and solvent recovery systems.

# Emission Point 50 (50)Four Renzemann Type 390H-19 Parts Cleaners

For cleaning press parts and cylinders from press #3, press #4 and press #5 Operation interlocked with the Regenerative Thermal Oxidizer Clean-up solvent: Ethyl Acetate

# **Applicable Regulation:**

401 KAR 59:212, New graphic arts facilities using rotogravure and flexography

401 KAR 59:185, New solvent metal cleaning equipment

# **State-Origin Requirements:**

401 KAR 63:020, Potentially hazardous matter or toxic substances

# **Comments:**

The EP50 Renzemann Parts Cleaners do not have their own emission point. They are lumped into EP 50 press #3 and #4 in their numbering.

EP44 and 50 are unheated cold cleaners.

Emissions are calculated using material balances.

Emission Points 43, 47, 50, 51, and 54 Rotogravure Printers							
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method			
VOC	Less than 35% by weight of net VOC input shall be emitted	401 KAR 59:212	Material Balance & MSDS	Two Catalytic Oxidizers and Three Regenerative Thermal Oxidizers (RTO) Testing, 100% Capture			
VOC	225 tpy of VOC emissions	To Preclude 401 KAR 51:017	Material Balance & SDS	Recordkeeping Requirements			
Single HAP	9.0 tpy of individual HAP emissions	To Major Source Status for HAP	Material Balance & SDS	Recordkeeping Requirements			
Combined HAP	22.5 tpy of combined HAP emissions	To Major Source Status for HAP	Material Balance & SDS	Recordkeeping Requirements			

**Initial Construction Date:** EP43, (7/2002); EP47, (2/2005); EP50, Press #3 (6/2008) Press #4 (10/2008); EP51, (12/2012); EP53 (9/2014); EP54, (6/2021)

### **Process Description:**

# Emission Point 43 (43)Rotogravure Printing Unit #1

#### **Rotogravure Printing Unit #1**

10-station, Valmet Rotomec 3000-3R ES rotogravure press using solvent based inksNatural gas fired dryer:2.2 MMBtu/hr maximum heat input.Clean-up solvent:Ethyl Acetate

# Emission Point 47 (47)Rotogravure Printing Unit #2

**Rotogravure Printing Unit #2** 

10-station, Valmet Rotomec 3000-3R ES rotogravure press using solvent based inks Natural gas fired dryer: 2.2 MMBtu/hr maximum heat input. Clean-up solvent: Ethyl Acetate

# **Control equipment:**

**Recuperative Catalytic Oxidizer #1**, MEGTEC Systems MAG-300-70-6-C (serves Presses 1 and 2) Natural gas fired: 7 MMBtu/hr maximum heat input

**Recuperative Catalytic Oxidizer #2**, MEGTEC Systems MAG-300-70-6-C (serves Presses 1 and 2) Natural gas fired: 7 MMBtu/hr maximum heat input

Emission Point 50 (50)Two (2) Rotogravure Presses #3 & #4

10-station, Bobst Rotomec RS4004-E rotogravure presses using solvent based inks. Includes four parts cleaners. See EP50 Four Renzmann Parts Cleaners. Hot Oil Heaters: See EP50 Boiler

### Emission Points 43, 47, 50, 51, and 54 Rotogravure Printers

#### **Control equipment:**

MEGTEC Systems CS-600-95, Regenerative Thermal Oxidizer Natural gas fired: 12.4 MMBtu/hr maximum heat input

#### Emission Point 51 (51) Rotogravure Press #5

10-station, Bobst Rotomec RS4004-E rotogravure presses using solvent based inks Hot Oil Heaters heated by EP 50 Hot Oil Heater.

#### **Control equipment:**

The CMM Group, RTO-30000-M-95-2C, Regenerative Thermal Oxidizer Natural gas fired: 7.5 MMBtu/hr maximum heat input

#### Emission Point 54 (54)Rotogravure Press #6

#### Flexographic/Rotogravure Press #6

BOBST Common Impression Flexographic/Rotogravure Printing Press Hot Oil Heaters: See EP55 Boiler

#### **Control equipment:**

Durr Systems, CS-300-95, Regenerative Thermal Oxidizer Natural gas fired: 6.0 MMBtu/hr maximum heat input

# **Applicable Regulation:**

401 KAR 59:212, New graphic arts facilities using rotogravure and flexography

40 CFR 64, Compliance Assurance Monitoring

# **State-Origin Requirements:**

401 KAR 63:020, Potentially hazardous matter or toxic substances

#### **Comments:**

Emissions are calculated using material balances.

To preclude major source status for HAP emissions, the source has agreed to an emission limit of 9 tons per year single HAP and 22.5 tons per year combined HAP.

Emissions from press 1 and 2 are exhausted through a common duct to the two catalytic oxidizers, both of which are normally in operation; although a damper in the duct system allows all emissions to be sent to either one oxidizer or the other.

Emission Point 46 Chrome Plating of Rotogravure Printing Cylinders							
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method			
Chromium	0.006 mg/dscm for tank 2	40 CFR 63 Subpart N	Material Balances and Engineering Estimations	Initial Testing and Daily Pressure Drop Monitoring			

Modification Date: Tank 1, (8/2021); Tank 2 (9/2016)

# **Process Description:**

- 1. CFM Remove Print Images, Grind & Polish with Waterbased Lubricants
- 2. Dechrome Sulfuric Acid
- 3. Degreasing with Waterbased Caustic Soda
- 4. Copper Strike
- 5. Acid Copper Plating
- 6. Engraving
- 7. Chrome Plating Chrome Tank #1, 396 gallons (New) 14.8 ft. long x 2.45 ft. wide x 1.47 ft. deep Rectifier Capacity 5000 Amp Chrome Tank #2, 396 gallons (New) 14.8 ft. long x 2.45 ft. wide x 1.47 ft. deep
- 8. Chrome Polish
- 9. Cylinder Transport

# **Applicable Regulation:**

401 KAR 63:002 Section 2(4)(h), 40 C.F.R. 63.340 through 63.348, Table 1 (Subpart N), National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

401 KAR 59:010, New process operations

#### **State-Origin Requirements:**

401 KAR 63:020, Potentially hazardous matter or toxic substances

#### **Comments:**

Cylinder engraving, polishing, and dechrome activities do not meet the definition of dry mechanical polishing under 40 CFR 63 Subpart WWWWW. This is because these processes use fluids and lubricant in their application.

40 CFR 63 Subpart N only covers the tanks, so other associated activities are subject to 401 KAR 63:020. No emissions estimations have been performed for those activities.

#### Emission Points 56, 57, 58 and 59 Four Emergency Fire Pumps

Initial Construction Date: Feb. 2018 (EP56), Jan. 2020 (EP57), Sept. 2021 (EP58), May 2023 (EP59)

#### **Process Description:**

Four Emergency Fire Pumps, Cummins QSB6.7 295 BHP, 6 Cylinder, 6.7L Displacement, each Primary fuel: Diesel

#### **Applicable Regulation:**

401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

# 401 KAR 60:005, Section 2(2)(ddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (Subpart III). Standards of Parformance for Stationary Compression Justice Internal Combustion Engines

**IIII**), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

#### **Comments:**

The potential to emit was calculated using 40 CFR 98 Subpart C for greenhouse gas emission factors, 40 CFR 60 Subpart IIII emission limitations for CO, NOx, PM, and VOC emission factors, and AP-42 for SO2 emission factors.

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# SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

# **Testing Requirements**\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
EP 46	Scrubber	Chromium Emissions	40 CFR 63 Subpart N	Initial	Method 306-A	0.015 mg/dsc m	0.002 mg/dscm	1500 amps	CMN20050001	11/30/2005
EP43 and EP47	Catalytic Oxidizer #2	VOC DRE	401 KAR 59:212	Initial and every 5 years	Method 25A	35% by weight of VOC	99.0% DRE	550 °F	CMN20050002	12/1/2005
EP43 and EP47	Catalytic Oxidizer #2					input (59:212)	99.1% DRE	500 °F		
EP43 and EP47	Catalytic Oxidizer #1						99.2% DRE	500 °F		
EP50	RTO for EP50, Press #3 and #4	VOC DRE	401 KAR 59:212	Initial and every 5 years	Method 25A	35% by weight of VOC input (59:212)	98.7% DRE	1600 °F	CMN20090001	5/5/2009
EP43	Catalytic Oxidizer #1	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight of VOC	98.79% DRE	N/A	CNM20100001	12/15/2010
EP47	Catalytic Oxidizer #2					input (59:212)	98.69% DRE	N/A		

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EP51	RTO for EP51, Press #5	VOC DRE	401 KAR 59:212	Initial and every 5 years	Method 25A	35% by weight of VOC input (59:212)	98.0% DRE	1415 °F	CMN20130001	9/25/2013
EP50	RTO for EP50, Press #3 and #4	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight of VOC input (59:212)	95.2% DRE	1581 °F	CMN20140001	5/15/2014
EP43 and EP47	Catalytic Oxidizer #1	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight of VOC	98.5% DRE	47.3 lbs/hr	CNM20150002	12/1/2015
EP43 and EP47	Catalytic Oxidizer #2					input (59:212)	98.8% DRE	69.3 lbs/hr		
EP51 and EP53	RTO for EP51, and 53 Press #5 and offset w/ rotogravure station	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight of VOC input (59:212)	97.6% DRE	159.2 lbs/hr	CMN20150003	12/2/2016
EP50	RTO for EP50, Press #3 and #4	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight of VOC input (59:212)	96.16% DRE 97.75% DRE 97.68% DRE	1522°F 1560°F 1670°F	CMN20190001	12/18/2019
EP51 and	RTO for EP51, and	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight	86.4% DRE	1354.76 °F	CMN20200001	6/10/2020

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EP53	53 Press #5 and offset w/ rotogravure station					of VOC input (59:212)	99.3% DRE 93.4% DRE	1600.40°F 1539.15°F		
EP43 and	Catalytic Oxidizer	VOC DRE	401 KAR 59:212	Every 5 years	Method 25A	35% by weight	93.7% DRE	510.5°F		
EP47	#1					of VOC input	93.8% DRE	534.23°F		
						(59:212)	97.8% DRE	554.52°F		
	Catalytic Oxidizer						95.5% DRE	511.84°F		
	#2						97.9% DRE	526.92°F		
							98.2% DRE	549.3°F		
EP54	EP54 RTO	VOC DRE	401 KAR 59:212	Initial and Every 5	Method 25A	35% by weight	96.3%	1611.77°F	CMN20220001	8/2/2022
				years		of VOC	91.9%	1561.36°F	_	
						(59:212)	96.7%	1699.50°F		
EP54	EP54 RTO	CP54 RTOVOC401 KARDRE59:212	401 KAR 59:212	Initial and Every 5	Method 25A	35% by weight	98.5%	1634.3°F	CMN20240001	12/17/2024
			years		of VOC	98.3%	1597.3°F	_		
						(59:212)	95.7%	1465.5°F		
EP54	EP54 Press #6	VOC Capture	401 KAR 59:212	Initial	Method 204	N/A	TBD	N/A	TBD	TBD

Footnotes:

# SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

|--|

Emission and Operating Limit	Regulation	Emission Unit
225 tpy of VOC emissions	To preclude the applicability of 401 KAR51:017, Prevention of significantdeterioration of air quality	Source- wide
9 tpy of individual HAP emissions	To preclude major source status for HAP	Source- wide
22.5 tpy of combined HAP emissions	To preclude major source status for HAP	Source- wide

# **Table B - Summary of Applicable Regulations:**

Applicable Regulations	Emission
	Unit
401 KAR 59:010, New process operations	EP2B,
401 KAR 59:015, New Indirect Heat Exchangers	EP50, 55
401 KAR 59:212, New graphic arts facilities using rotogravure and flexography	EP44
401 KAR 60:005, Section 2(2)(dddd), 40 C.F.R. 60.4200 through 60.4219, Tables	EP56, 57,
1 through 8 (Subpart IIII), Standards of Performance for Stationary Compression	58, 59
Ignition Internal Combustion Engines	
401 KAR 61:020, Existing process operations	EP2A,
	EP03
401 KAR 63:002 Section 2(4)(h), 40 C.F.R. 63.340 through 63.348, Table 1	EP46
(Subpart N), National Emission Standards for Chromium Emissions From Hard	
and Decorative Chromium Electroplating and Chromium Anodizing Tanks	
401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a	EP56, 57,
through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for	58, 59
Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion	
Engines	
401 KAR 63:020, Potentially hazardous matter or toxic substances	46, 43,
	47, 50,
	54
40 CFR 64, Compliance Assurance Monitoring	EP43, 47,
	50, 54

#### **Table C - Summary of Precluded Regulations:**

Precluded Regulations	Emission Unit
401 KAR 51:017, Prevention of significant deterioration of air quality	

# Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
N/A	

# Air Toxic Analysis

#### 401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances

The Division for Air Quality (Division) has performed AERMOD on February 2, 2016 of potentially hazardous matter or toxic substances (Dietheylene Glycol Monoethyl Ether, Ethyl Acetate, Ethyl Acrylate, Ethyl Benzene, Formaldehyde, Methanol, Methyl Isobutyl Ketone, Styrene) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

#### **Single Source Determination**

N/A

# SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
V-05-007	007 Initial Issuance APE20		1/24/2000	6/1/2005	Initial Sourcewide Permit	Syn Minor
V-05-007 R1	Minor Revision	APE20070001	6/1/2007	8/3/2007	Addition of an offset press EP48	N/A
V-05-007 R2	V-05-007 R2 Admin Amend		8/15/2007	8/15/2007	Corrected composite mesh pad operating range p. 28 & p. 30	N/A
V-05-007 R3 Minor Revision		APE20080001	3/5/2008	6/6/2008	Addition of (2) Rotogravure presses & oxidizer	N/A
V-10-020	Renewal	APE20090001	1/16/2010	2/21/2011	Permit Renewal	N/A
V-10-020 R1 Revision		APE20120002	8/17/2012	12/27/2012	Addition of 5 <sup>th</sup> Rotogravure Press, RTO, & Solvent Recovery Still	N/A
V-10-020 R2	Admin	APE20130001	2/14/2013	3/8/2013	Fix Typographical Errors	N/A
V-10-020 R3	-10-020 R3 Revision APE20140001 7/16/2014 9/		9/19/2014	Add Offset/Roto Press	N/A	
V-16-007	Renewal	APE20150001	10/20/2015	7/15/2016	Permit Renewal	N/A
V-16-007 R1	Minor Revision	APE20190001	6/19/2019	10/13/2019	Language change to accommodate the establishment of multiple RTO Operating Temperatures	N/A
V-21-016	Renewal	APE20210001	3/29/2021	12/27/2021	Renewal Permit Permit	N/A

Statement of Basis/Summary Permit: V-21-016R1

### **SECTION 6 – PERMIT APPLICATION HISTORY**

Permit Number: V-21-016	Activities: APE20210001					
Received: February 3, 2021	Application Complete Date(s): March 29, 2021					
Permit Action: $\Box$ Initial $\boxtimes$ Renewal	$\Box$ Significant Rev $\Box$ Minor Rev $\Box$ Administrative					
Construction/Modification Requested? $\square$ Yes $\square$ No NSR Applicable? $\square$ Yes $\square$ No						
Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action $\boxtimes$ Yes $\Box$ No						

#### APE20210001:

The permittee applied for the renewal of their title V permit. 40 CFR Part 64 Compliance assurance monitoring applicability was added to the rotogravure printers, and 401 KAR 59:185 applicability was added to the parts washers. 401 KAR 59:015 applicability was added to the EP50 Hot Oil Heater as it is an indirect heat exchanger.

#### APE20210002:

The permittee applied for the addition of EP54 Flexographic/Rotogravure Printer with an oxidizer, and EP55 hot oil heater #2. These items were incorporated into the renewal permit. During renewal, EP6H and 6I extruders were removed.

V-21-016 Emission Summary						
Pollutant	2020 Actual	Previous PTE	Change (tpy)	Revised PTE		
	(tpy)	V-16-007 R1 (tpy)		V-21-016 (tpy)		
СО	7.07	29.83	5.77	35.60		
NO <sub>X</sub>	8.61	42.38	6.87	49.25		
PT	3.54	23.01	-2.57	20.45		
$PM_{10}$	3.54	23.01	-4.85	18.17		
PM <sub>2.5</sub>	0.94	8.66	-2.72	5.94		
$SO_2$	0.067	0.81	0.041	0.85		
VOC	163.0	745.4	62.63	808.1		
Lead	4.2E-05	1.7E-04	3.43E-05	2.0E-04		
	Gre	eenhouse Gases (GHO	Gs)			
Carbon Dioxide	10034	40096	8244	48341		
Methane	0.19	0.76	0.16	0.92		
Nitrous Oxide	0.18	0.73	0.15	0.88		
CO <sub>2</sub> Equivalent (CO <sub>2</sub> e)	10094	40333	8293	48626		
	Hazar	dous Air Pollutants (H	HAPs)			
Chromium VI and	0.075	0.79	0	0.79		
Compounds						
Ethyl Benzene	0.28	0.62	0	0.62		
Methanol	0.26	1.45	0	1.45		
Methyl Isobutyl Ketone	0.10	0.58	0	0.58		
Styrene	0.78	1.70	0	1.70		
Combined HAPs:	1.50	5.14	-0.0016	5.14		

# **APPENDIX A – ABBREVIATIONS AND ACRONYMS**

- AAQS – Ambient Air Quality Standards BACT - Best Available Control Technology – British thermal unit Btu CAM - Compliance Assurance Monitoring – Carbon Monoxide CO Division – Kentucky Division for Air Quality ESP - Electrostatic Precipitator GHG – Greenhouse Gas HAP – Hazardous Air Pollutant HF – Hydrogen Fluoride (Gaseous) MSDS – Material Safety Data Sheets – Millimeter of mercury column height mmHg NAAQS – National Ambient Air Quality Standards NESHAP – National Emissions Standards for Hazardous Air Pollutants NO<sub>x</sub> – Nitrogen Oxides NSR – New Source Review PM – Particulate Matter  $PM_{10}$ – Particulate Matter equal to or smaller than 10 micrometers – Particulate Matter equal to or smaller than 2.5 micrometers PM<sub>2.5</sub> PSD – Prevention of Significant Deterioration PTE – Potential to Emit
- SO<sub>2</sub> Sulfur Dioxide
- TF Total Fluoride (Particulate & Gaseous)
- VOC Volatile Organic Compounds